UNITED STATES PATENT AND TRADEMARK OFFICE

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10/729,179	12/06/2003	Yehuda Azenkot	034704-000049	8590

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

PTOL-90A (Rev. 04/07)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _01 December 2008_.

2a)☐ This action is **FINAL.**   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1,25-27,32-35_ is/are pending in the application.

   4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1,25-27,32-35_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

   Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   a)☐ All   b)☐ Some * c)☐ None of:

   1.☐ Certified copies of the priority documents have been received.

   2.☐ Certified copies of the priority documents have been received in Application No. _____.

   3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

   * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
   Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
   Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1.   This action is in response to the RCE filed on 12/6/2008.

2.   Claims 1, 25-27, and 32-35 are pending (claims 2-24 and 28-31 were cancelled).

Double Patenting

3.   The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees.   A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

        A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

        Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

4.   Claims 1, 25-27, and 33-35 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1 of copending Application No. 11/982,671.

        Although the conflicting claims are not identical, they are not patentably distinct from each other because claims 2 and 3 of the co-pending application disclose the process of claims 1, 25-27 and 33-35 of the instant application as follows:

Claims 1 and 32 of the instant application	Claim 2 of the Co-pending Application '671
A process for optimizing transmission speeds on a distributed transmission system which can support multiple upstream channels or logical channels simultaneously, comprising:	A process for optimizing transmission speeds on a distributed transmission system which can support multiple upstream channels or logical channels simultaneously, comprising:
1) gathering data about each cable modem (CM) in a group of CMs coupled to a cable modem termination system (CMTS) through a distributed transmission system;	1) gathering data about each cable modem (CM) in a group of CM coupled to a cable modem termination system (CMTS) through a distributed transmission system;
2) dividing said group of CMs up into logical groans based upon CM type and/or throughput ability;	2) dividing said group of CMs up into logical groups based upon CM type and/or throughput ability;
3) creating an upstream channel or logical channel on said distributed transmission system for each logical group of CMs each upstream channel or logical channel having transmission characteristics optimized for a particular logical group of CMs;	3) creating an upstream channel or logical channel on said distributed transmission system for each logical group of CMs, each upstream channel having transmission characteristics optimized for a particular logical group of modems;
4) assigning the CMs in each logical group to the upstream channel or logical channel created for that logical group; and	4) assigning the modems in each logical group to the upstream channel created for that logical group.
monitoring **the error rate** of transmissions from each CM, and if **the error rate** of any CM becomes higher than an underperformance limit or lower than an overperformance limits limit,	monitoring **the byte error rate** of transmissions from each CM, and if **the byte error rate** of any CM becomes too high or too low relative to underperformance and overperformance standards, respectively,
sending a message to said CM whose **bit-error rate** has become too high or too low causing each said CM which is overperforming or underperforming to switch to an upstream channel with a burst profile which is compatible with the CM type and suitable for more efficient communications of digital data between said CMTS and said CM.	sending a message to said CM whose **byte error rate** has become too high or too low causing each said CM which is overperforming or underperforming to switch to an upstream channel with a burst profile which is compatible with the CM modem type and suitable for more efficient communications of digital data between said CMTS and said CM.
Claims 25 and 33 of the instant application Wherein the error rate is the bit error rate.	**Claim 2 of the Co-pending Application '671** monitoring **the byte error rate** of transmissions from each CM, and if **the byte error rate** of any CM becomes too high or too low relative to underperformance and overperformance standards, respectively.
Claims 26 and 34 of the instant application Wherein the error rate is the byte error rate.	**Claim 2 of the Co-pending Application '671** monitoring the byte error rate of transmissions from each CM, and if the byte error rate of any CM becomes

Claims 27 and 35 of the instant application	Claim 3 of the Co-pending Application '671
	too high or too low relative to underperformance and overperformance standards, respectively.
Claims 27 and 35 of the instant application Wherein the error rate is the packet error rate.	**Claim 3 of the Co-pending Application '671** monitoring the packet error rate of transmissions from each CM, and if the packet error rate of any CM becomes too high or too low relative to underperformance and overperformance standards, respectively, sending a message to said CM whose packet error rate has become too high or too low causing each said CM which is overperforming or underperforming to switch to an upstream channel with a burst profile which is compatible with the CM modem type and suitable for more efficient communications of digital data between said CMTS and said CM.

However, the use of error rate (as required by claims 1,32 of the instant application) to cover various types of error rate, the use of CMTS to implement the cable modem monitoring and channel assignment process (as required by claim 32 of the instant application), and the monitoring of bit error rate which is derivable from the byte error rate (as required by claims 25 and 33 of the instant application) are well known in the art of cable modem transmission, it would have been obvious to one skilled in the art to modify the co-pending application to include the monitoring of the error rate, the CMTS for implementing the claimed process, and the monitoring of the bit error rate in order cover various types of error rate including bit error rate and enable the process to be automatically implemented by the CMTS without human intervention.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Objections

4.   **Claims 1 and 32** are objected to because of the following informalities:

- in claim 1, line 6, "groans" should be changed to "groups";

line 17, "modem" should be removed;

- in claim 32, line 19, "modem" should be removed.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

5.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the
> subject matter which the applicant regards as his invention.

Claims 32-35 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for

failing to particularly point out and distinctly claim the subject matter which applicant regards as

the invention.

Claim 32 is an apparatus claim that is directed to a CMTS; however, the claim body is

missing positive components of the CMTS. Therefore, the claim is vague and indefinite as it is

unclear what components are the CMTS made up of.

Claim Rejections - 35 USC § 102

6.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed
> in the United States before the invention by the applicant for patent or (2) a patent granted on an application for
> patent by another filed in the United States before the invention by the applicant for patent, except that an
> international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this
> subsection of an application filed in the United States only if the international application designated the United
> States and was published under Article 21(2) of such treaty in the English language.

7.   **Claims 1, 25-27, and 32-35** are rejected under 35 U.S.C. 102(e) as being anticipated by
Hou (US 6,898,755 B1).

Regarding **claims 1 and 25-27**, as shown in Fig. 5, Hou teaches a process comprising:

Gathering data about each cable modem (CM) in a group of CMs coupled to a cable
modem termination system (CMTS) through a distributed transmission system (step 100, the
CMTS maintains the performance statistics of each CM, col. 7, lines 11-14).

Dividing said group of CMs up into logical groups based upon CM type and/or
throughput ability (in steps 106-114, the CMTS determines for each CM whether the CM is
dynamic burst profile mode capable and if so an associated burst profile is determined, and if the
CM is not dynamic burst profile mode capable and associated burst profile per the current
DOCSIS specification is determined, col. 7, lines 16-30).

Creating an upstream channel or logical channel on said distributed transmission system
for each logical group of CMs, each upstream channel or logical channel having transmission
characteristics optimized for a particular logical group CMs (three burst profiles are created for
three logical groups of CMs that are dynamic burst profile capable mode and one burst profile
per DOCSIS specification is created for logical group of CMs that are not dynamic burst profile
mode capable, col. 7, lines 21-col. 8, lines 23).

Assigning the CMs in each logical group to the upstream channel or logical channel
created for that logical group (steps 110 and 108 in the previous bandwidth request, col. 7, lines
21-29).

Monitoring the bit/byte/packet error rate of transmissions from each CM, and if the

bit/byte/packet error rate of any CM becomes higher than an underperformance limit or lower

than an overperformance limit, sending a message (a MAP message) to said CM whose

bit/byte/packet error rate has become too high or too low (the CMTS monitors the performance

of each CM that is dynamic burst profile capable and assigns appropriate burst profile in a MAP

message to the CM in response to the current bandwidth request based on the CM perform

measurements on the CM which indicate "relatively" high and/or low on BER/codeword error

rate/packet loss rate, col. 8, lines 23-65, col. 9, lines 25-42, col. 12, lines 49-col. 13, lines 15, see

also col. 5, lines 52-col. 6, lines 6, 33-42) causing each said CM which is overperforming or

underperforming to switch to an upstream channel with a burst profile which is compatible with

the CM modem type and suitable for more efficient communications of digital data between said

CMTS and said CM (once the dynamic profile capable CM receives a MAP message with a

specified new burst profile, the CM must switch to a new upstream logical channel

corresponding to the new burst profile, i.e., switching to and operating in the assigned parameters

of the new assigned burst profile, in order successfully communicate with the CMTS, col. 10,

lines 49-col. 11, lines 29; see also col. 7, lines 35-col. 8, lines 23).

Claims 32-35 are CMTS claims containing the same limitations as recited in claims 1

and 25-27, respectively, and are therefore rejected under the same reason set forth in the

rejection of claims 1 and 25-27, respectively.

Response to Arguments

8.   Applicant's arguments filed on 12/1/2008 have been fully considered but they are not

persuasive.

A.   In the Remarks on pages 6-7, the Applicant argues that Hou does not teach (a) "sending a

message to said CM whose error rate has become too high or too low" and (b) said message

"causing each said CM which is overperforming or underperforming to switch to an upstream

channel with a burst profile which is compatible with the CM type and suitable for more efficient

communications of digital data between said CMTS and said CM."

        In response, the Examiner respectfully disagrees. It is submitted that Hou teaches every

limitation as claimed. In particular, regarding limitation (a), Hou clearly teaches "**sending a**

message to said CM whose error rate has become too high or too low" (the CMTS specifies

in grants with in a MAP message the burst profile that is selected which is based on the

robustness of the transmissions being received from a particular CM as measured by the CMTS,

col. 9, lines 25-42, see also col. 8, lines 23-65 and claim 21). Regarding limitation (b), Hou also

teaches that **said message "causing each said CM which is overperforming or**

underperforming to switch to an upstream channel with a burst profile which is compatible

with the CM type and suitable for more efficient communications of digital data between

said CMTS and said CM" (it is inherent in Hou that once the dynamic profile capable CM

receives a MAP message with a specified new burst profile, the CM must switch to *a new*

upstream logical channel corresponding to the new burst profile, i.e., switching to and operating

in the assigned parameters of the new assigned burst profile, in order successfully communicate

with the CMTS, col. 10, lines 49-col. 11, lines 29; see also col. 7, lines 35-col. 8, lines 23). Note

that the Applicant also agrees that Hou teaches the steps of creating an upstream/logical channel

for and assigning the CMs in each logical group based on CM burst profile to the

upstream/logical channel. Therefore, since each burst profile is supported by an upstream logical

channel, when the CM switches to a new burst profile as assigned by the CMTS, it constitutes

switching to a new upstream logical channel corresponding to the newly assigne burst profile.

Based on the above, it is respectfully submitted all claimed limitations are met by Hou.

Thus, the rejection is maintained.

Conclusion

9.   The prior art made of record and not relied upon is considered pertinent to applicant's

disclosure.

- US 7,359,332 B2, disclosing upstream channel changes (Abstract and Fig. 8).

10.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to NITTAYA JUNTIMA whose telephone number is (571)272-

3120. The examiner can normally be reached on Monday through Friday, 8:00 A.M - 5:00 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Seema Rao can be reached on 571.272.3174. The fax phone number for the

organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published

applications may be obtained from either Private PAIR or Public PAIR. Status

information for unpublished applications is available through Private PAIR only. For

more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have

questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at

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Representative or access to the automated information system, call 800-786-9199 (IN USA OR

CANADA) or 571-272-1000.

/Nittaya Juntima/
Examiner, Art Unit 2416
1/31/2009